



Symposium Summary Report

**“International High-Level Symposium on Educational Challenges on  
Science, Technology and ICT  
New Millennium Learners and Innovative Learning Environments”  
November 11-15, 2012**

*“The world we have created is a product of our thinking. It cannot be changed without changing our thinking.”*

Albert Einstein

The Educational systems in the world are currently in the midst of a paradigm change- from an arbitrary system to one that is based on professional ethics standards and quality levels. This change requires the integration of a new set of skills, the 21<sup>st</sup> century skills, in the educational curriculum in order to make it relevant to the new social environment.

Adjusting the education system to the 21<sup>st</sup> century is a significant step whose aim is to establish an innovative pedagogy in the school, one that will implement information and communication technology as an integral part of the curriculum.

This pedagogy is in fact a flexible educational structure that is adjusted to social-cultural, economical and technological processes of change. The pedagogy is tailored and adjusted to the diversity of the students, diminishing the partitions between the schools and the outside world, while using technology in order to promote the educational processes in the pedagogical level as well as the managerial level. The education of science and technology, and specifically the science and technology teachers, has a prominent role in the development of the very core of the student’s knowledge and skills.

The renewed educational field has led governments, international organizations (such as OECD, UNESCO and others), academic and professional organizations, and science and technology personnel to the understanding that education of science and technology is of the highest importance as it leads to the development of the human resource.



The aim of the symposium was to create a dialogue between the participants on the topic of new educational fields in science and technology while implementing ICT, as well as to expose Israel's activities in these fields in order to promote a relationship and develop co-operation between experts from developing countries and international organizations with their counter parts in Israel. These targets were reached due to the assistance and guidance of Dr. Edem Adubra from the Teachers Task Force for EFA.

The participants were exposed to educational initiatives, and an innovative pedagogy in education for science and technology and ICT. In addition, there was an attempt to address questions of consolidation of international standards, and establish connections between the country's authorities and decision makers and the professional knowledge and research centers.

The symposiums' schedule was rich and diverse and included, among other things:

1. **Lectures from high level personnel from the Ministry of Education and experts in the field, such as:**

- **Ms. Dalit Stauber**, General Director, Israel Ministry of Education
- **Dr. Ofer Rimon**, Director, Science and Technology Administration, Israel Ministry of Education
- **Mr. Roni Dayan**, Head of ICT Applications in Education Wing, Israel Ministry of Education
- **Dr. Abram Rotem**, ICT Program Advisor, Israel Ministry of Education
- **Mr. Gershon Cohen**, Head of Technology Field, Israel Ministry of Education
- **Dr. Henrieta Ackerman**, National Inspector, Science and Technology Administration, Israel Ministry of Education
- **Prof. Yoav Yair**, Dean of Development and Learning Technologies, the Open University of Israel
- **Dr. Eli Eisenberg**, Senior Deputy Director General, Head of R&D and Training administration – ORT Israel
- **Dr. Ronit Ashkenazi**, Deputy General Director and Head of the Pedagogical Division, Amal School-Net
- **Dr. Zahava Scherz**, Director of the National Teacher Center for Science & Technology for JHS Department of science Teaching Weizmann Institute of Science
- **Ms. Maya Halevy**, Director, Bloomfield Science Museum of Jerusalem



- **Mr. Yaachov Hecht**, Visionary in Democratic Education
- **Mr. Omri Gefen**, Chairman of GEVIM Group
- **Dr. Oved Kedem**, Educational Projects Director, Davidson Institute of Science Education at the Weizmann Institute of Science
- **Special Keynote Speaker, Mr. Marc Prensky**, Digital Expert, USA
- Special thanks should be given to **Prof. Dan Shechtman**, Nobel Prize achiever in Chemistry, 2011, The Technion, for his inspiring words and willingness to take part in the symposium and contribute his experience and expertise.
- The representatives of the Ministry of Foreign Affairs
- **Ambassador Daniel Carmon**, Director of MASHAV – Israel's Agency for International Development Cooperation
- **Ambassador Efraim Ben Matityahu**
- **Mr. Ilan Fluss**, Director, Policy Planning & External Relations Department-MASHAV, Israel Ministry of Foreign Affairs

2. **Professional visits, including:**

- Primary school "Haela", Modi'in
  - ORT Singalovski school, Tel Aviv
  - Bloomfield Science Museum, Jerusalem
3. A visit to "YAD VASHEM" The Holocaust History Museum, as well as tours to the Old City in Jerusalem and the Tower of David Museum.

The symposium participants included Vice Ministers and CEO'S from the Ministry of Education, Consultants, and Directors of Academic Institutions from 17 countries: Ghana, Kenya, Myanmar, India, Georgia, Thailand, Nepal, Costa Rica, Panama, Paraguay, Ecuador, Dominican Republic, Namibia, Jamaica, Franca, Guatemala and Ethiopia.

Prominent Participants:

1. Mr. Edem Adruba, Head of the Secretariat, International Task Force on Teachers for EFA - contributed professionally on the topic of International Teacher's Training.
2. Hon Calist Mwatela, Deputy Minister of Education, Kenya- being an alumnus of MASHAV, contributed his knowledge and experience on the topic of Sustainability.
3. Mr. Fuad Ibrahim, Minister of Education, the Federal Democratic Republic of Ethiopia, representative of the International Task Force on Teachers for EFA.



4. Prof. Mutale Mike Musonda from the African Council for Distance Education
5. Dr. Jacques Ginestie, Director of the IUFM Aix-Marseille University, France.

Closing the symposium, the participants each made a commitment to act in order to implement ideas and projects in their respective countries, and thus declared the need to establish a network in accordance to the principles of education of science and technology.

### **Participant's Commitments:**

- **Prof. Mutale Mike Musonda, Executive Director ACDE:**

1. Re-position ACDE's programs on
  - a) Technical committee on collaboration.
  - b) Duality assurance and accreditation  
to focus on technical and vocational education teachers and lobby the African Union Commission on Human Resource, Science & Technology to adopt these programs as follow up to the 2<sup>nd</sup> decade of education for Africa.
2. Lobby member universities of ACDE to mainstream ICT in curriculum development and content delivery.

- **Jamaica- Franklin Johnstons**

1. Propose to the minister the approval of Public Private Partnership (PPP) for:
  - a) A kids science museum/ park
  - b) A memorial museum of slavery  
To orient students to favor STEM from early years and develop national pride and commitment to their country.  
To deepen the integration of Tech Voc and Academic/General education and facilitate students fitting market needs to ensure they are able to get jobs on graduation.  
Teachers have to be prepared for this.  
MASHAV may help in many ways.

- **Calist Mwatela -Kenya**

1. Sign the MASHAV MOE agreement
2. Ensure ESD is factored in the proposed education bill to address article 53 of the new constitution.

- **Sathien Usala MOE -Thailand**

1. Report this symposium to MOE



2. Meeting among of person who concern with this topic of this symposium in MOE and I will report to them and set the project which we will have a cooperation with MASHAV, Israel.
- **Benedicia Maana Binet- Ghana**
    1. To pursue vigorously the scaling up of kindergarten (early childhood education) throughout the eight regions of the country by building the capacity of the ICT teachers. MASHAV.
    2. Building the capacity of the science, maths and ICT teachers. The international Task Force for Teachers.
    3. Educating and sensitizing all share holders about the misconception held by them on TVET. Task Force.
    4. Collaboration and exchange of expertise MASHAV.
  - **Christian Matias, ICT Director, Ministry of Education, Dominican Republic**
    1. Connect science department of Ministry of Education with people of Israel/ Museum of Science... to explore possibilities of collaboration for improving science teaching focus/ strategies.
    2. Discuss Israel/ New ICT program with colleagues in the Dominican Republic, as a way to strength our own ICT program.
  - **Gangalal Tucadhar, Former Education Minister, Nepal**
    1. For Gov. and National Institutions:  
High level national commission for monitoring, supervision and evaluation in education system as a whole.
    2. For teachers of EFA:  
Teachers of all regions should be creative, innovative and honest for their professional description with self motivation in the beginning of 21<sup>st</sup> century.
  - **Anand Kumar Singh, Ministry of HRD, India**
    1. Promote ICT in education- under national mission on education through ICT launched by the Gov. of India
    2. Teacher training to improve the quality- under the above mission with the use of ICT. (With whom- may be UNESCO, but I am not the deciding authority).



- **Zaw Min Aung, Myanmar**

1. Training for teachers (trainers) with international task force on EFA (short-term) or MASHAV (especially for Tech & Voc. Education)
2. Expertise exchange program for competency based curriculum development with MASHAV or International Task Force on EFA. (Especially for science and technology, ICT as teaching aids).

- **Fuad Ibrahim, State Minister of Education, Ethiopia**

1. Embed entrepreneurship education with the general TVET and adult education curriculum. There will be an every step consideration to do it scientifically.
2. Right now, in Ethiopia we have developed a road map on how to modernize the education with ICT. Using the existing ICT infrastructure and its improvements. If we get any technical support from Israel we are more than happy.

General education includes ICQ (ECCD), Primary, Secondary and Adult Education.

3. We have been introduced a project program to improve science and math's education at grade seven and eight. This project has been done with the partnership of Japan Government through JICA.

- **Panama – Jeremias Herrera**

1. Development of a project with the ministry of Education to create a Diploma on science and Virtual courses management for teachers.
2. Counseling on the development of the contents of curriculum of technical courses.

- **Costa Rica – Mario Mora**

1. Create a network of “principals/head-teachers”, “teachers”, “advisors” who will lead on the Science and Technological Education (Ministry-University-NGOs)
3. Potentiate the training of the 27 “regional advisors” of Science as promoters of the strategies of innovative pedagogical mediation
4. Link these groups to optimize the training processes received through international cooperation (example: MASHAV)

- **Paraguay – Martin Medina**

1. Diagnosis of the current situation regarding ICT at the Educational System
2. Training course for teachers
3. Training course with the international cooperation



- **Guatemala – Cyrano Ruiz**

1. Investigate a system of indicators for the Science and Technological Education in collaboration with universities and consulting international agencies
2. Development of vocational programs which answer to the needs of the industry of software with the universities and private companies which develop software

- **Ecuador – Manuel Samaniego**

1. Establish a group of educational leadership who boost educational policies on the use of ICTs en the processes of teaching –learning
2. Boost the implementation of “smart classrooms” at the Educational centers



our heartfelt thanks are extended to all those who assisted and supported the process of organization and implementation of the Symposium.

Yudith Rosenthal,

Director of Ofri International Education Center  
Mashav-ISRAEL'S AGENCY FOR INTERNATIONAL DEVELOPMENT COOPERATION  
MINISTRY OF FOREIGN AFFAIRS, ISRAEL



## Program

# International High-Level Symposium on Educational Challenges in Science, Technology and ICT - New Millennium Learners and Innovative Learning Environments November 11-15, 2012

### Sunday, Nov 11<sup>th</sup>, 2012

11:20

Registration

11:30 – 17:00

Exhibition Fair - Israeli Companies dedicated to the advancement and introduction of ICT in the Israeli education system

17:30 – **Opening Session**

**Welcome Remarks**

**Ms. Yudith Rosenthal**

Director of the Ofri Center

**Ambassador Daniel Carmon**

Director of MASHAV – Israel's Agency for International Development Cooperation

**Ms. Dalit Stauber**

General Director, Israel Ministry of Education

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**Dr. Edem Adubra**

Head of the Secretariat, International Task Force on Teachers for EFA

**Mr. Marc Prensky**

Digital Expert, USA





## Remarks on behalf of the International Task Force on Teachers for EFA

### Mr. Fuad Ibrahim

State Minister for General Education, Ministry of Education of the Federal Democratic Republic of Ethiopia

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- **Keynote Speaker**

#### Dr. Ofer Rimon

Director, Science and Technology Administration, Israel Ministry of Education

**“Educational Challenges on Science, Technology and ICT”**

### 19:15 Welcome Dinner

Performing Guest: *High School Academy of Music Quartet*

## Monday, Nov 12<sup>th</sup>, 2012

07:30 – **Departure from the hotel**

09:00 – 12:00 **ICT Professional Field Trip: “Haela School”, Modi'in.**

- **Presentation of the ICT program and its implementation**
- **Media Learning in different fields**

14:30 – 17:00 - **Professional Panel: “Teaching the New Millennium Learners - ICT as a Tool of Education”**

#### **Moderator: Mr. Roni Dayan**

Head of ICT Applications in Education Wing, Israel Ministry of Education

#### **Dr. Abrum Rotem**

ICT Program Advisor, Israel Ministry of Education



**Dr. Guy Levi,**

ICT Products Director at the Center for Educational Technology- CET

**Ms. Bonnie Perlman**

Mgr. of Business Development

Snunit Centre for the Advancement of Web Based Learning

**Prof. Yoav Yair**

Dean, Development and Learning Technologies, the Open University of Israel

**Mr. Marc Prensky**

Digital Expert, USA

17:30 – 18:45 Guest **Speaker: Prof. Dan Shechtman**, Nobel Prize in Chemistry, The Technion  
**Tackling & Overcoming – “Science Education in the 21<sup>st</sup> Century”**

**Tuesday, Nov 13<sup>th</sup>, 2012**

07:00 – **Departure from the hotel**

09:00 – 10:00 **Field Trip: ORT Singalovski, Tel Aviv**

10:15 – 12:30 **Professional Panel: “Technological & Vocational Education in the 21<sup>st</sup> Century”**

**Moderator: Mr. Gershon Cohen**

Head, Technology Field, Israel Ministry of Education

**Dr. Eli Eisenberg**

Senior Deputy Director General, Head of R&D and Training administration – ORT Israel

**Dr. Ronit Ashkenazi**

Deputy General Director and Head of the Pedagogical Division, Amal School-Net

**Prof. Eran Sher**

Head, Department of Mechanical Engineering, Ben Gurion University of the Negev,

Head, Center of Excellence in Teaching



**Prof. Mutale Mike Musonda**

African Council for Distance Education

**Dr. Jacques Ginestie**

Directeur IUFM Aix-Marseille Université

**15:15 Visit to "YAD VASHEM" The Holocaust History Museum**

**Wednesday, Nov 14<sup>th</sup>, 2012**

**07:45 – Departure from the hotel**

**08:00 Visit to the Old City of Jerusalem**

**11:30 Visit to the Bloomfield Science Museum of Jerusalem**

**14:00 – 16:30 Professional Panel: "Innovative Learning Environments for the New Learners – "Doing Science"**

**Moderator: Dr. Henrieta Ackerman**

National Inspector, Science and Technology Administration, Israel Ministry of Education

**Ms. Nira Kushinsky**

National Middle School Instructor - Science and Technology, Israel Ministry of Education

**Dr. Zahava Scherz**

Director of the National Teacher Center for Science & Technology for JHS Department of science Teaching Weizmann Institute of Science

**Ms. Maya Halevy**

Director, Bloomfield Science Museum of Jerusalem

**17:00 – 18:00 Professional Panel: Tackling & Overcoming – "International Cooperation in Education"**

**Dr. Edem Adruba**



Head of the Secretariat, International Task Force on Teachers for EFA

**Mr. Ilan Fluss**

Director, Policy Planning & External Relations Department-MASHAV, Israel Ministry of  
Foreign Affairs

**Ms. Mazal Renford**

Director of the Carmel Training Center, MASHAV

**Ms. Yudith Rosenthal**

Director of the Aharon Ofri Center, MASHAV

19:15 – **Departure from the hotel**

20:00 **Spectacular Night - at the Tower of David Museum**

**Thursday, Nov 15<sup>th</sup>, 2012**

09:00 **Panel and Discussion: Sharing Israel Models –“Projects that will Inspire you”**

**Mr. Yaachov Hecht**

Visionary in Democratic Education

**Dr. Muhammad El-Nabari**

Mayor of Hura

**Mr. Zohar Oved**

Mayor of Tiberias

**Mr. Omri Gefen**

Chairman of GEVIM Group

**Mr. Calist Mwatela**

Deputy Minister of Education, Kenya

11:20

Group Discussion

Monitoring the groups:

**Dr. Oved Kedem**



Educational Projects Director Davidson Institute of Science Education at the Weizmann  
Institute of Science

**Mr. Omri Gefen**

Chairman of GEVIM Group

14:30

**Reports of the Working Groups to the Plenum and Proclamation – Plan of Action**

19:00 **Closing Ceremony – Performing Guest: Folklore Dance Company**

**Closing Remarks**

**Ambassador Daniel Carmon**

Director of MASHAV – Israel's Agency for International Development Cooperation

**Participants:**

N°	COUNTRY	NAME	TITLE
1.	Ethiopia	H.E. Mr. Fuad Ibrahim	*State Minister for General Education
2.	USA	Marc Prensky	Digital Expert, Book Writer
3.	Kenya	Mutale Mike Musonda,	Executive Director of African Council for Distance Education Nairobi
4.	France	Jacques Ginestié	Directeur IUFM Aix-Marseille Aix-Marseille Université
5.	EFA - UNESCO	Edem Adubra, PhD	Head of the Secretariat, International Task Force on Teachers for EFA

6.	Costa Rica	Mario Mora	*Deputy Minister
7.	Georgia	Gigi Tevzadze	Rector, Ilia State University
8.	Myanmar **	Dr. Zaw Min Aung	* Director General Ministry of Education
9.	Kenya	Hon Calist Mwatela	*Deputy Minister
10.	Kenya	Prof. George Imbanga Godia	* Director General for Education Science and Technology
11.	Dominican Rep.	Cristian Matias	Director of ICT division- Ministry of Education
12.	Panama	Jeremias Herrera	University of Technology of Panama
13.	Nepal	GangaLal Tuladhar	Former Minister of Education
14.	Paraguay	Don Martin Medina Salvioni	*Cabinet Director General, MOE
15.	Guatemala	Jose Cyrano Ruiz Cabarrus	Chancellor of Da Vinci University
16.	Ghana	Benedicta Naana Biney	Director-General of the Ghana Education Service
17.	Jamaica **	Dr. Franklin Johnston	*Senior Adviser to the minister of education
18.	India	Prof. Kannan Moudgalya	Professor at IIT Bombay
19.	India	Shri Anand Kumar Singh	Director (ICT), Ministry of HRD
20.	Thailand	Sathien Usaha	Chief of the Ministry Operation Centre, Ministry Education
21.	Ecuador	Leticia Banquerizo Guzman	Deputy at Permanent Mission of Ecuador in Israel
22.	Ecuador	Manuel Israel Samaniego Zamora	President of the Educational Committee Guayaquil